

- What is science?
- Theory, hypotheses, and predictions
- Qualitative vs. quantitative
- Between vs. within comparison
 - Strengths and weaknesses of both
- Experimental design
- Observer-expectancy effect and double-blind studies
- Structure of a research article
- Three aspects of IRB and what they are based on
 - Beneficence, respect for persons, justice
- Dependent vs. independence variable
- 4 types of variables and the differences between them
 - Nominal, ordinal, interval, ratio
 - What central tendency stats should be used for each
- Operational definition
- Mediation and moderation
- Types of qualitative research
- Sampling
 - Types of probability and nonprobability sampling
- Reliability
 - Internal vs. external
 - Analyses for each
- Validity
 - Face, content
 - Criterion
 - Convergent vs. discriminant
- Factorial analysis
 - Determine the existence of main effects and interactions from a 2x2 table
 - Interpret what main effects and interactions are
- ANOVA
 - Types of ANOVA and when they are used
- Type 1 vs. Type 2 error
- Power
 - What it is and what aspects of the study effect it
 - Direction of these effects (e.g. does a larger sample size increase or decrease power?)
 - How to find standard deviation and effect size when doing a sample size analysis
- Bonferroni corrections
 - What are they?
- How to write an introduction section
- Meta-analysis
 - What is it?

- File drawer issue
- Dependent variable of a meta-analysis
- Inclusion and exclusion criteria
- Strengths and weaknesses
- Interpret a box plot